

Advanced Data Management & Analysis Branch Code587

Branch Technical Status Report
April 29, 2004
James Byrnes

Agenda

- “Quantum Chemical Software: Applications, Promise and Problems” Dr. Igor Eberstein
- Staffing
- Project Summary

587 Staff Transitions

- John Bogert: Retirement 04/02/2004
 - AFA: -1
- Clarence Wade: Support for Dr. Stuart Jordon/ 682
 - ISE-Primary, Standard: +0.3
 - AFA: -0.3
- Igor Eberstein: Quantum Chemistry Calculations & Union Activities
 - ISE-Primary Work, Specialized: +0.3
 - ISSI Other: +0.3
 - AFA: -0.6

Project Profile

Project	Code	Feb	Mar	Apr	CS	² CS	SSC	Comments
ESDIS/EDIO	423	G	G	G	1	0		OnGoing
P2PSDE	587	G	G	G	0.8	0	0.2	Developed a Java class implementing "gateway" peers for providing RendezVous Services on the local NetPeerGroup, while displaying for the user a real-time summary of current RendezVous activity and RendezVous-connection status. Developed another Java class for seeking a connection to these local gateway RendezVous-peers, and using that connection to establish the P2PSDE root-group.
ADMA	587	Y	Y	Y	1	0		Igor Eberstein Available for New Work. Starting Quantum Computing Calculation work today's presentation (.3 FTE) and Union Activities (0.3 FTE)
NGTRDM	632	G	G	G	1	1		Developed data processing routine to create one-minute data averages for NOAA05, NOAA06, NOAA07, NOAA08, NOAA10 and NOAA12 datasets. Developed MPI application to process the one-minute averaged data, and derive BL coordinate for four models - IGRF only, T89, T96 and T01.
SSVL	632	G	G	G	0.6	0		Developing an interactive tool to explore MHD data in 2-D and 3-D. The goal is to better understand the transfer of energy through the magnetosphere, specifically regarding vortices observed under certain circumstances.
LASP	680	Y	Y	Y	1	-1		No SOW for LASP Working issue with 680, J. Bogert Retired Received a JON for 0.3 FTE for C. Wade
LEP	690	G	G	G	1	0		OnGoing
CASSINI_CAPS	692	Y	Y	Y	0	0		Backfill for E. Vaughan w/ Corporate Hire
ViSBARD	692	G	G	G	0.4	0		Posted ViSBARD on NSSDC's site to the public. Now ranks as Google's #1 hit when "visbard" is entered. Used ViSBARD to create animations of proposed MagCon orbits, along with showing their simulated data return using MHD data from the CCMC. Added x,y,z vector component plotting in 2-D window to complement magnitude plotting
SWE	692	G	G	G	0.2	0		Enhanced Level-Zero browsing/vis., allowing LZ results to be more easily browsed, captured, and externally visualized or analyzed. Provided a temporary patch to browsing/vis. tool to adjust Strahl data-products' time-resolution (solution to immediate science-team issue, which may evolve into a permanent tool-feature).
Total					7	0		

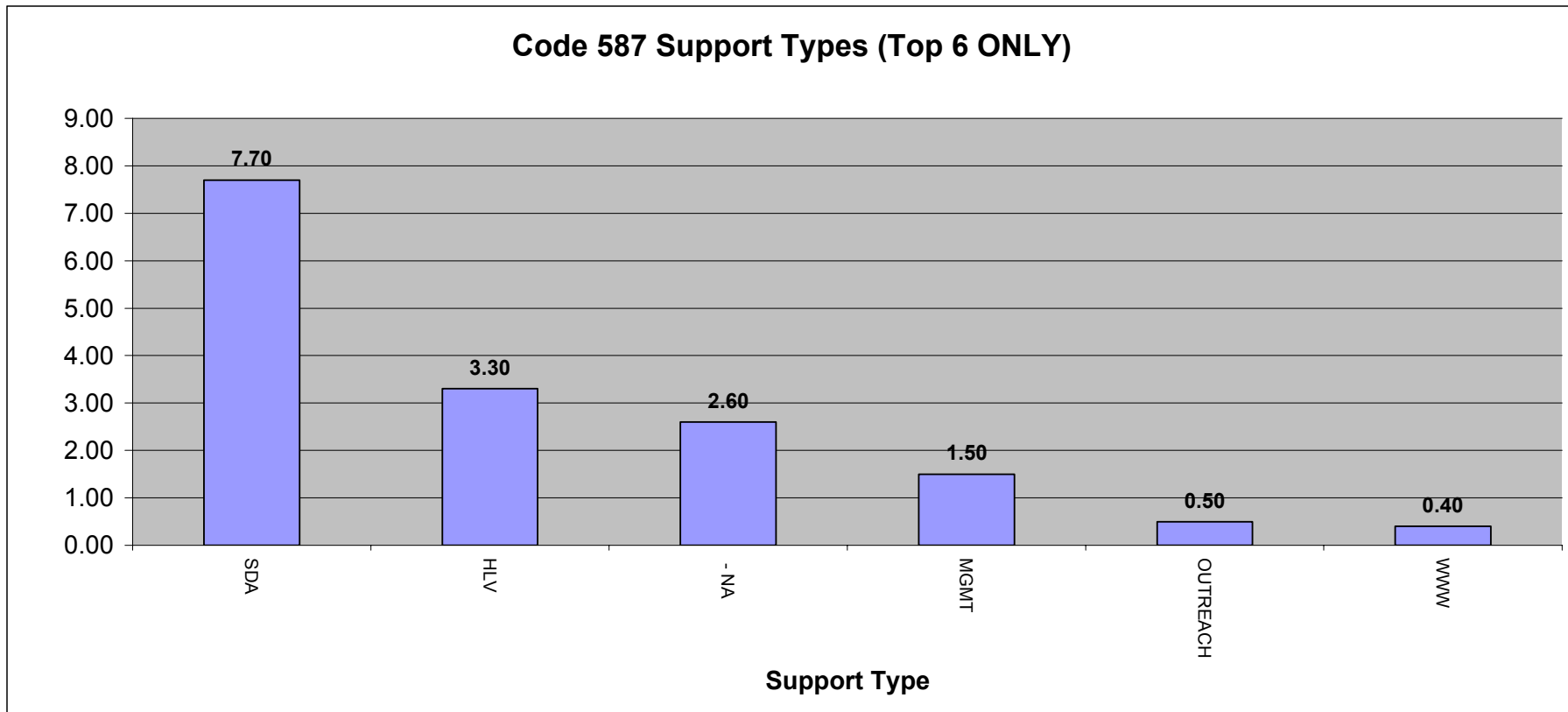
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								Performed intensive testing on file-reading and visualization Fixed a few problems with the code implementing the presented functionality Completed code implementing the remaining, related file-reading/visualization features for these tools.
MTCT	692	G	G	G	0.3	0		Integrated the new file-reading-visualization features into existing tool-suite.
CCMC	696	G	G	G	2.4	0		Runs on Request system has fully integrated 2 new models into the system. An adaptive grid description scheme has been added to CDF files. Interpolation routine completed that utilizes BATSRUS CDF files
CMDPS/ST-5	696	G	G	G	0.3	0		OnGoing
								Designed Relational Database for current needs and future needs defined by LTP (Learning Technologies Project) Animated Earth Server. Implemented and tested importation script to convert current SVS database to the relational database.
SVS	930	G	G	G	1	0		
HPC	930	G	G	G	1	0		OnGoing
								Tested around 87% of all the available codes. Wrote additional and enhanced the existing codes to replace the ones that are outdated, in need of improvement or dysfunctional. Standardized the description of functional codes. Prepared the reference guide on using MATLAB codes for HHT analysis
HHT	971	G	G	G	0.5	0		
								Modified the Ocean-Ice Model code in order to handle the fine resolution grid. Executed the fine resolution Ocean-Ice Model on NCCS large-scale distributed-memory parallel machine HP/COMPAQ Alpha Server CS45 using 64 processors. Adopted the topography supplied by merged IBCAO and ETOPO5 topographic data set, which is an improvement over the original ETOPO5 data because of the incorporation of many of the new topographic measurements.
ANACM	971	G	G	G	0.5	0		
LIS	974	G	G	G	2	0		OnGoing
Total					8	0		

Acronyms

ANACM	Arctic-North Atlantic Climate Modeling
CCMC	Community Coordinated Modeling Center
CDF	Common Data Format
CMDPS	Common Magnetometer Data Processing System
DODS	Distributed Oceanographic Data System
ESDCD	Earth and Space Science Computing Division
FITS	Flexible Image Transport System
GrADS	Grid Analysis and Display System
GRIB	Gridded Binary
HDF	Hierarchical Data Format
IDL	Interactive Data Language
KP	Key Parameter
LASP	Laboratory for Astronomy and Solar Physics
LDAS	Land Data Assimilation System
LEP	Laboratory for Extraterrestrial Physics
LIS	Land Information System
LHEA	Laboratory for High Energy Astrophysics
LSM	Land Surface Model
LWS	Living with a Star
MPI	Message Passing Interface
MTCT	Multi-spacecraft Time Series Correlation Techniques
NetCDF	Network Common Data Form
P2PSDE	Peer-to-Peer Science Data Environment
PI	Principle Investigator
PWG	Polar, Wind & Geotail
SVS	Scientific Visualization Studio
ViSBARD	Visual System for Browsing, Analysis, and Retrieval of Data

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